FIG. 1.

12)

HAND-IN PROGRAM

ALLOWS STUDENTS TO SUBMIT THEIR PAPERS ELECTRONICALLY TO A NETWORK DRIVE WHICH THEY HAVE ACCESS TO OR TO THE TEACHER'S HARD DRIVE, DEPENDING ON HOW THE TEACHER DECIDES TO SET IT UP. THE PROGRAM STORES THE STUDENTS' PAPERS IN THEIR TEACHER'S ARCHIVE. EACH SENTENCE OF THE DOCUMENT IS CONVERTED INTO A NUMBER USING THE FORMULA;, SENTENCE VALUE EQUALS

$$\sum_{i}^{n} (a_i)^2$$

WHERE IN IS THE NUMBER OF CHARACTERS IN THE SENTENCE, AND a IS THE ASCII VALUE OF THE ITH CHARACTER IN THE SENTENCE. THE ORIGINAL TEXT AND THIS NUMBER IS STORED IN THE ARCHIVE. THE SENTENCE VALUE IS STORED FOR SORTING/COMPARING PURPOSES BY THE VALIDATION AND PLAGIARISM PREVENTION PROGRAMS. THIS PROGRAM ONLY ACCEPTS DOCUMENTS THAT ARE IN .TXT FORMAT.

NETWORK DRIVE OR TEACHER HARD DRIVE

VALIDATION PROGRAM

ALLOWS TEACHERS TO VIEW THE EXACT DOCUMENTS THAT THE STUDENTS TURNED IN. THEY MAY SIMPLY CHECK ON A NAME OF A STUDENT THAT SUBMITTED WORK AND ALL OF THE TEXT THAT THEY SUBMITTED IS DISPLAYED. THIS ALLOWS TEACHERS TO VERIFY THAT "JUNK" DOCUMENTS HAVE NOT BEEN SUBMITTED. IT ALSO ALLOWS TEACHERS TO VIEW THE LIST OF STUDENTS THAT TURNED IN WORK.



PLAGIARISM PREVENTION PROGRAM

16

ALLOWS THE TEACHER TO SELECT ANY ARCHIVE TO COMPARE THEIR STUDENTS' WORK AGAINST. THE ARCHIVE COULD CONTAIN OTHER TEACHERS' STUDENTS' WORK, INTERNET PAPERS, OR PAST STUDENTS' WORK. AFTER AN ARCHIVE IS SELECTED, ALL STUDENT FILES ARE READ IN, AND THE SENTENCE VALUES ARE SORTED. THE PROGRAM THEN "SCROLLS" DOWN THE LIST TO FIND SENTENCES THAT ARE ESSENTIALLY IDENTICAL. IF SUCH SENTENCES ARE FOUND, THEN THE SOURCES ARE RECORDED. WHEN THE "SCROLLING" IS COMPLETED, THE SOURCES THAT MATCH AND THE QUANTITY OF OCCURRENCES ARE REPORTED. THE TEACHER MAY THEN RUN HIS ARCHIVE AGAINST ANOTHER. ARCHIVE HIS CURRENT STUDENTS' WORK, AND/OR PRINT OFF ANY MATCHING SOURCES.

FIG. 2.

HAND-IN PROGRAM

- STUDENT INPUTS PASSWORD AND TEACHER ID 22
- VERIFY PASSWORD AND ID 24
- SET CURRENT DIRECTORY BASED ON TEACHER ID 26
- ALLOW STUDENT TO SELECT FILE TO HAND IN 28
- READ IN STUDENT FILE 30
- STORE EACH SENTENCE OF STUDENT FILE IN AN ARRAY OF STRING VARIABLES 32
- TRANSLATE EACH SENTENCE INTO A NUMERICAL VALUE AS FOLLOWS: 34
 - SET THE NUMERICAL VALUE OF THE SENTENCE TO ZERO 36
 - GET THE ASCII VALUE OF THE CURRENT CHARACTER AND SQUARE IT 38
 - ADD THE SQUARED VALUE TO THE NUMERICAL VALUE BEING ACCUMULATED FOR THE SENTENCE 40
 - REPEAT THE TWO IMMEDIATELY PRECEDING SUBSTEPS THROUGH THE END OF THE SENTENCE 42
- CREATE A FILE FOR THE STUDENT IN THE TEACHER'S ARCHIVE BASED ON THE TEACHER ID 44
 - WRITE THE ORIGINAL SENTENCE ON THE NEXT AVAILABLE LINE OF THE FILE 46
 - WRITE THE NUMERICAL VALUE OF THE SENTENCE ON THE NEXT AVAILABLE LINE OF THE FILE 48
- REPEAT THE TWO IMMEDIATELY PRECEDING SUBSTEPS UNTIL ALL SENTENCES AND NUMERICAL VALUES HAVE BEEN WRITTEN TO THE FILE 49

VALIDATION PROGRAM 14

- TEACHER INPUTS TEACHER ID 50
- SET CURRENT DIRECTORY BASED ON TEACHER ID 52
- READ IN ALL FILES FROM CURRENT DIRECTORY 54
- DISPLAY A LIST OF ALL STUDENTS THAT TURNED IN WORK 56
- SELECT A STUDENT'S NAME TO VIEW THE DOCUMENT THAT HE TURNED IN 58
- DISPLAY THE SELECTED STUDENT'S DOCUMENT IN A RICH TEXT FORMAT BOX 60

PLAGIARISM PREVENTION PROGRAM

- TEACHER INPUTS TEACHER ID 62
- SET CURRENT DIRECTORY BASED ON TEACHER ID 64
- TEACHER SELECTS EITHER OTHER ARCHIVES, OR DOCUMENTS IN THE CURRENT DIRECTORY TURNED IN BY OTHER STUDENTS, FOR COMPARISON 66
- READ IN EACH DOCUMENT FROM THE SELECTED ARCHIVES OR DIRECTORY 68
 - ONLY THE NUMERICAL VALUES OF THE SENTENCES ARE READ IN AND STORED AT THIS TIME 70
- NUMERICAL VALUES OF ALL SENTENCES ARE SORTED USING A COMB-TYPE SORT 72
- CHECK FOR ESSENTIALLY IDENTICAL SENTENCES BY SCROLLING THROUGH THE SORTED LIST 74
 - COMPARE THE CURRENT VALUE WITH THE NEXT VALUE 76
 - IF ESSENTIALLY THE SAME VALUE, RECORD THAT TWO SENTENCES MATCH, CHECK THE NEXT VALUE 78
 - IF NOT ESSENTIALLY THE SAME VALUE, NEXT ELEMENT ON THE LIST BECOMES THE CURRENT VALUE ~ 80
 - REPEAT THE THREE IMMEDIATELY PRECEDING SUBSTEPS UNTIL ENTIRE LIST HAS BEEN CHECKED 82
- REPORT THE SOURCES THAT HAD MATCHING SENTENCES ALONG WITH THE NUMBER OF OCCURRENCES 84
- ALLOW TEACHER TO SELECT ANOTHER ARCHIVE TO COMPARE SENTENCE VALUES WITH 786
- ALLOW TEACHER TO ARCHIVE AND NAME CURRENT DIRECT DIRECTORY FOR FUTURE USE ~ 88